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Vol. XI **MARCH, 1941** **No. 3**

CONTENTS

The Promotion of School Health Through The Environment 66
Edna A. Gerken, A.B., C.P.H.

The Modern School Physician: Relations In The School 72
Benjamin Spock, M.D.

Teacher Participation In A Rural School Health Program 78
E. V. Thiehoff, M.D.

The Faculty Health Committee 81
Robert E. Schneider, M.S.

Editorials 83

Abstracts 85

Review 93

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THE JOURNAL OF SCHOOL HEALTH

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Vol. XI MARCH, 1941 No. 3

THE PROMOTION OF SCHOOL HEALTH THROUGH THE ENVIRONMENT*

EDNA A. GERKEN, A.B., C.P.H.

Supervisor of Health Education
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Department of the Interior

That environment plays an important part in the promotion of school health is recognized. The fact that many old school buildings exist in which environment essential to health and sanitation is lacking or inadequate is known to most health workers, and has been pointed out in such studies as The Regents Inquiry into the Character and Cost of Education in New York State. There is urgent need of educating those who are responsible for school plants so they may be aware of the implications to child health, where children are required to spend a large part of their waking hours in buildings which are improperly equipped for establishing what may be regarded as minimum health habits, and where wrong attitudes toward these may consequently result.

The provision of a school plant in which children can follow essential health practices is fundamental to a good educational program. The responsibility of school boards and school administrators for this must not be minimized, yet it is well to recognize that there are rich fields for endeavor in the promotion of health through problem solving with children, and that these opportunities should not be neglected while waiting for the Utopian day when school plants will provide adequately for the health needs of the child.

The modern educational program has progressed far from the formal methods of a few decades ago. That a child learns by doing is a truism which has long been accepted, but the application of this principle to the development of a school program through activities which meet some actual need of the child is rather recent.

* Presented at the Joint session of the Public Health Education Section and American School Health Association, of the 69th Annual Meeting of the A.P.H.A., October 8-11, 1940.

In modern educational procedures, learning is the result of *purposeful* doing. The activities are not merely "busy work" to keep the child occupied, nor are they aimless spurts of industry based on fleeting interests. The activities are carefully planned so that they will lead the child to definite goals of achievement.

Learning is an outgrowth or an accompaniment of these activities. The child learns because, in order to do what he has undertaken, it is necessary for him to achieve certain skills, or acquire specific knowledge. In the integrated program several types of learning may grow out of the same activity. Health skills and knowledge and attitudes are developed along with other types of skills and knowledge although the child at the moment is interested only in the activity as such. Environmental problems due to some lack in the school plant offer excellent opportunities for educational growth while children undertake to improve conditions through their own efforts.

The use of the environment in the promotion of school health was well demonstrated by a group of Junior High School children and their teacher in a school on an Indian reservation. The building in use was an old one. The construction of new wings at some previous time had left much to be desired in certain respects. In this particular classroom, light poured in from windows on three sides. A white building in close proximity reflected additional light into the room. There were blackboards on every available foot of wall not occupied by windows or door.

Soon after their arrival in the room the children began to complain about the fact that it was impossible because of the glare for them to read work placed on the blackboard. The teacher might have reported the condition to the principal of the building. Instead, she seized the opportunity to direct the group in some "purposeful doing", and put the responsibility upon the class for finding out what was wrong, finding a way to correct it, and making changes which might improve the situation.

The children attacked one problem at a time, using the trial and error method, finding a number of clews through reading, and eventually locating a light meter which they were able to borrow for two weeks. They made many discoveries as they worked on their problem, and the room went through many changes.

Through their reading they found that light is better when it comes into a classroom either from one side only or from the side and rear. They corrected the situation in their room by using win-

dow shades to close off the light entirely from one end of the room. They found that by adjusting sash curtains on the remaining windows they could increase or reduce the amount of light as needed. They washed curtains and readjusted them to suit their needs. They discovered through the use of the light meter the effect of black surfaces and of white walls on the reflection or absorption of light, and found that paint can be used effectively to help control the amount of lighting. Paint was mixed and applied in places where it would do the most good.

The students discovered that blackboards or display boards located between windows are not well placed. Light to be effective must fall on the object to be seen rather than into the eyes. Unused blackboards, unnecessarily absorbing light, were painted out. Boards which could not be painted were covered with light colored cloth to make a suitable display space for some of their work. A limited amount of blackboard space, selected because of its favorable light conditions, was preserved for use.

Fairly well satisfied with results, a last suggestion was made by one of the students. A change in the position of the desks might improve the lighting on their work. This was tested thoroughly with the light meter and the best position finally determined. The room had now been transformed into one that gave a distinctly pleasant impression upon entrance, and in which there was now no cause for complaint about lighting as the class went about its work. The children were themselves pleased with what they had done. They had learned a valuable lesson, viz., that one does not need to accept an unfavorable environment, but that, through intelligent study and determination to make improvements, one can control his environment.

While this activity was proceeding, the children were "learning by doing", not through tasks assigned to them as exercises, or imposed by the teacher who saw the need of improving the working conditions of their classroom. They themselves had found a problem, and had accepted the responsibility for solving it. In the process, it became necessary for them to work some arithmetic problems not found in a book, to develop facility in using reference materials to help in answering questions, to enlarge their vocabulary, to learn to spell, to develop skill in manipulating materials. Along with this they acquired a new appreciation for attractive arrangement in the classroom. The interest aroused by this participation led to further study including problems dealing with the

conservation of sight. The children tested vision, found out some of the things which may be done to help conserve sight, and studied the eye with its peculiar structures which make certain care essential to sight conservation. *In the modern integrated activity program problems of the environment may stimulate the promotion of school health through pupil-teacher activities for their solution, while at the same time providing excellent educational material.*

In planning the school program for the promotion of health, one of the first steps is to determine the fields of child health needs in order that goals may be set up within them and activities planned which will lead to the attainment of these goals. What is necessary in order that the child may grow normally and maintain health?

Briefly the child's health needs may be summarized in five fields: (1) A hygienic, sanitary, and safe environment in which to live, (2) personal health and safety practices, (3) professional health services, (4) security through adjustment to his social environment, and (5) preparation for assuming responsibility in the home and family and in society as a whole. Throughout all these fields of child health needs, environment plays a significant part.

Personal health and safety practices cannot be developed without attention to the provision of adequate facilities for them, e.g., hand-washing, toilet, drinking water, lunch rooms. Professional health services are dependent in some measure on the provision of adequate equipment, and suitable places in which to work. Adequate adjustment to the child's social environment is an outgrowth of situations in the school environment, which include the personalities of teachers and classmates as well as the physical arrangement of the school plant and of the program. To a considerable degree environment affects the personality of the child. Preparation for assuming responsibilities in the family and home and society requires an investigation into the broad environment of local, state, and Federal agencies for the promotion of health.

While the child's health needs must be provided for him when they are beyond his control or his individual capacity, the child is very young who cannot in some measure participate in securing these. With the increase of his abilities as he grows older, the child must be given an opportunity to assume more and more responsibility for his own health needs. This shifting of responsibility to the child is the real problem of education. Too often it is overlooked in health promotion.

It is a mistake to assume that the ideal environment must be provided for the child and that he must have every safeguard thrown around him if health is to be promoted. Doing things for children which they might do for themselves deprives them of many educational opportunities. Children will take responsibility for initiating activities if given the opportunity, and it is not necessary to have assignments planned for them by the teacher. This does not mean, however, that children should be allowed to drift aimlessly without guidance. Rather, activities are directed toward goals definitely set up within the various fields of child health needs.

Problems of the environment affecting the health of the school child, the solution of which offers opportunities for child participation, may be found throughout the school plant and the school program. They include the provision of adequate and satisfactory facilities for cleanliness and sanitation so that the child may develop correct patterns of living while in school. They concern the regulation of temperature, the humidity, the lighting in the classroom; the provision of satisfactory devices for caring for used paper handkerchiefs, and towels; the making of first aid kits and their proper care and use. They extend to the lunch room and the care of lunches, provision for lunch in the classroom when necessary, provision for heating food or for serving it hot, for caring for waste food, and for the proper washing and sanitization of dishes. Since the causative agents of communicable diseases are a part of the environment, they include the proper spacing of desks to lessen the danger of communication, and the development of personal responsibility by the child in such matters as covering coughs and sneezes to prevent the spread of the common cold and other diseases. Children have repeatedly demonstrated their ability to participate effectively in activities related to these environmental needs.

To demonstrate the effective use of whatever is available to meet one's needs is a sound educational procedure. Many examples might be given to illustrate the ingeniousness of pupils and teachers working with limited facilities. In one school with an outdoor environment the children solved their hand-washing problem by getting a barrel to catch water from the roof. This was placed on a platform built by the children. From the bottom of the barrel they fitted a horizontal metal pipe in which they bored small openings at twelve inch intervals. Below this they constructed a drain, and arranged for disposal of the waste water in a sand pit.

In another school where water was not abundant, a running water hand-washing device was made by suspending a tin can at the bottom of which several small holes had been placed. Each child could wash his hands very satisfactorily by using one small cup of water.

A group of children who decided they needed a first aid cabinet in their school so that they might care for minor injuries properly, investigated to find what such a cabinet should contain, decided on the proper size and design, and made the cabinet. For containers they collected screw top jars and pickle bottles that had been discarded from kitchens at home, chose those of suitable or uniform size and sterilized them. They learned how to prepare sterile dressings and bandages from old sheets, and made the supply they needed. They studied the proper way to use iodine and how to keep it at the proper dilution. This first aid cabinet had an educational value entirely missed when a ready made kit is placed in a school.

Beyond the immediate school building, environmental problems extend to the playground, with its equipment and the need for supervision as to safety. Children may assume definite responsibilities here. For example, at one school a child stepped on a nail. The class of which he was a member decided that something should be done to prevent a similar thing occurring again. In a body they went out and cleaned up the entire school yard, searching for nails, bits of glass, or anything which might serve as a hazard to safety. Not far away was an old lot which was used for dumping rubbish. Interest in their own school yard led the children to an awareness of this as a possible menace to safety and certainly as an unsightly spot. The school undertook to clean it up, burning or burying rubbish. After it was cleaned up, they decided to make a scout cabin, some rustic seats, and a barbecue pit. The former dump yard eventually became a lovely park in which school picnics were popular. This is another example of the modern approach to the problems of environment as these affect school health.

Environmental problems extend out to the highways, to the homes, and to the community with its markets, its dairies, its bakeries, or its corner grocery store or trading post. All of these provide rich fields from which to draw material for activities which will lead to improvement of conditions or to an intelligent understanding of the part these play in health promotion.

In preparing the child to assume his responsibilities in the fam-

ily and in society as a whole, there is increasing need of including a study of the organization of public health services within the community. The activities for the control of the environment through county, state, Federal, and other agencies need to be understood if they are to receive intelligent support. Community resources for health are a definite part of the environment as it affects the home and school.

In discussing the use of the environment in the promotion of school health, illustrations have been drawn from less privileged and rural areas because the full implications of the situation are more readily discernible there. Basically, however, exactly the same needs occur in more privileged groups in urban areas.

In modern new school plants there are problems connected with the proper care and correct use of the facilities provided. Responsibility for meeting these adequately should be shared by teachers and pupils.

Many buildings in the larger population centers have toilets and hand-washing facilities that have been long out-moded. Problems of lighting and of ventilation are frequently of major significance in buildings of the past century. One of the difficulties in solving such problems may be that of securing the necessary permission to correct the undesirable environment.

No building should be considered more sacred than the lives of the children housed therein. A campaign to bring this fact to the attention of the school board and the administrator may be necessary before the actual problem can be attacked.

The use of the environment in school health promotion should be recognized as presenting two opportunities. On the one hand, when a hygienic, sanitary, and safe environment is adequately provided it becomes possible for the child, under proper guidance, to practice satisfactory habits of living with beneficent results in health. On the other hand, when adequate equipment and facilities for healthful living are lacking, a problem is presented serving as a stimulus to meaningful activities through which children may experience the satisfaction of achievement, learn that an unfavorable environment can be changed to meet one's needs, gain useful knowledge and develop attitudes favorable to health, while at the same time actually correcting the unfavorable situation. The educational use of environmental problems may produce effects reaching far beyond the immediate health needs of the child. In that respect its value cannot be estimated.

THE MODERN SCHOOL PHYSICIAN*: RELATIONS IN THE SCHOOL

BENJAMIN SPOCK, M.D.

In a school that has domestic employees it is important for the doctor to examine them on employment and at least yearly thereafter, particularly those that have to do with serving food. This in itself is to some degree a well-intentioned gesture rather than a real safeguard. A person can be healthy at the time of an examination in September and be a menace by October. It is obviously more important to have a responsible supervisor who will know when an employee is ill and see that he is examined then. It is also important to have suitable remuneration and working conditions, so that reliable help will stay on for years. The rules about loss of income from bona fide illness should be liberal, so that employees will feel free to report their own symptoms instead of having to hide them.

The most important thing is to have them cooperate in reporting and isolating themselves for colds, sore throats, and other acute infections, for these can be spread by employees as well as by pupils. Enough history should be taken in conjunction with examinations to rule out reasonably tuberculosis, past typhoid or other diarrheal disease, venereal disease. Wassermann tests are usually done on employment, and stool culture for detection of typhoid carriers.

Everyone in our discussion so far has been examined except the teachers and secretaries. Obviously they should be too. It is only less necessary in them to the degree that they are meant to be wise enough to look after their own health. And even the wisest teacher can be sick and not know it. The movement to require yearly teachers' examinations has only recently begun, but will in all probability spread. Who is to examine them? The ideal way would be for them to consult competent doctors of their own and have the school pay for it. If the school cannot pay for this but gives them a decent salary they would still be getting their money's

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* This is the third of a series of five articles by Benjamin Spock, M.D., which are reprinted from *Progressive Education*, December 1939 to April 1940. The divisions between these articles, and the titles of them as they originally appeared have been changed slightly by the Editor. These have been issued as a single reprint by *Progressive Education*, 221 W. 57 St., New York, N. Y., in pamphlet form under the title, "The Changing Task of the School Physician." Price $0.50.

worth in paying for it themselves. In the case of apprentice teachers and others getting inadequate compensation the best compromise is a questionnaire history and examination by the school doctor. This seems justified in the interest of school health, even though it might be questioned from other points of view.

Teachers should be just as careful about keeping away from school when they have acute infections as they expect children to be. Unfortunately, they often are not. Part of the blame may lie in a system that penalizes them for absence. It is another example of the fact that the school authorities all the way up to the top must be willing to cooperate in a school health program even when it costs money.

In focussing so far on the specific things the school doctor does or should do we have omitted discussion of *how* he can best get things done, what his relations with pupils, school staff, parents, and family doctors should ideally be. It may be questioned why it is necessary to go into detail about such relationships which might very well be taken for granted. Experience shows that it *is* necessary, that the reason school children are not getting anywhere near the health they deserve is not just because of lack of facilities, but that what facilities there are are not integrated. This can be seen in the most expensive private schools and in the public schools in the poorest districts, even in New York City with its tremendous concentration of physicians and public clinics. In a private school which can afford a fair amount of a doctor's time, conferences with parents, letters home by the hundred, there are still children at the end of each school year who should have seen the oculist, the otologist, the dentist, and did not. There are children who stayed thin and tired without every resource having been explored; there are children who needed psychiatric help and did not get it.

It gets discovered by accident that a child who has been doing badly for months is actually toxic from too much thyroid medication that no one in school knew she was getting. It turns out that she has not kept in touch with her own doctor. She has come near to disaster surrounded by all the resources that money can provide because the resources are not coordinated.

A recent survey in a high school in a low income area showed that when viewed critically the proportion of children with remediable defects who were getting effective treatment was pathetically meager—this in an area where facilities for free treatment are probably as abundant as anywhere in the world.

What of the school doctor's relations with pupils? At the minimum he dashes in for a hasty visit, asks the school nurse if everything is all right. She has a few children for him to see and a question on quarantine; the doctor exercises his expert knowledge, makes a few essential decisions, and dashes out again. This is better than nothing at all, by far, and perhaps the best the school can afford. But if there is the time and the inclination a lot that is more constructive can be attempted.

Every child that is sent home with a cold can have a sentence or so of explanation that helps him to understand why. It may be enough to keep him at home at the beginning of his next cold. When a class is starting to be inspected because of an exposure to measles, the doctor can give a picture of the disease with the first symptoms to be watched for. This will impress enough children so that there will be at least a few less school exposures. Later, at the time of physical examination a contact can be made with each child, and a little history gathered by asking a few interesting questions and saying something reassuring at the end. Just a few words make the difference to a child between a gruff stranger and a sympathetic friend. It is revealing to hear children who have been examined previously by the same doctor and who ought to know that the examination has no terrors burst out of the examining room and say to waiting classmates, "It wasn't bad at all!" For the doctor to be gentle and friendly not only allays anxiety but in a positive direction provides the child with one more security-giving relationship no matter how slight, of which no child, however fortunate has too many. This has particular application to the adolescent, for he is becoming aware of his changing body and almost universally worries about it. He feels he is too small or too large, that the size of his nose or his genitals is wrong. His acne distresses him and is apt to be linked in his mind with guilt about sex. If the physician has the time and disposition to be generally reassuring it will help a lot—if he has the further time and the greater gift for inviting questions and confidences he will be making a really significant contribution.

Good relations with teachers take more than a few kind words to foster. The poor school doctor, if he has time to think about teachers, is apt to be a little scared of them collectively. If he branches out at all from old routine he is made aware of rumblings and grumblings from the general direction of one faction or another. This is only natural, and is probably mild compared with

the row there would be in a hospital if a teacher tried to make changes there for the improvement of patients' education. But if teachers and the school doctor have a genuine interest in children's welfare, have a little tact, and are given the time to consult, they can help children collectively better than they can individually—besides helping and edifying each other. Most important should be the opportunity for the teacher to have access to the physician to discuss special problems among her pupils. In this way she should get some help, if never as much as she hopes for or expects.

The physician should learn something, not only something to make his advice to that child's parent more valuable, but also something to enrich his own knowledge of children.

More desirable, if less practicable, would be a consultation with each teacher individually in which they together consider, at least briefly, every pupil of hers, telling each other at first hand what each has noticed, giving the other a chance to ask further questions, deciding if anything needs to be done and how.

It would seem also valuable to have the school physician attend at least one general faculty meeting a year, to tell them what he is trying to do, show them he is only a well-meaning human being, give them a chance to ask clarifying questions about the more obscure of his machinations, a chance to air some well-justified grievances. If the teachers want it, he can give short discussions of such topics as colds, diet, growth.

The school physician may or may not be in charge of a physical education department, but he should certainly be closely associated with it. A good physical education department can play an important prophylactic and therapeutic role in correcting posture and building muscles while the body is still growing. It can use its influence to get children into athletics that are constructively good for them and to keep them out of sports that are beyond their capacities and capable of taxing rather than helping them. The department can prevent such hazardous practices as growing boys trying to hold their weight down to stay within a certain weight class, or from following bizarre training regimes.

A surprising proportion of the accidents of violent sports like football can be prevented both by keeping the wrong people out and by systematic exercises in early season to toughen susceptible muscles and ligaments. Some day the question will have to be answered whether certain sports are not fundamentally more straining than building and therefore unfit for school and college

use. If such proves to be the case the school physician will have to use his influence in and out of school to bring about the change.

Very few schools aside from boarding schools have a full-time physician, though it has been pointed out in a previous section that any large day school could profitably employ one. The school nurse assists the part-time physician when he is present, and to a varying degree takes his place when he is absent. At physical examination time she may be weighing and measuring, testing vision, or recording the doctor's findings. Physicians need a nurse's presence during the examination of girls to minimize the patient's embarrassment and for the physician's protection.

Because the physician is usually rushed while he is at the school, he must depend on the school nurse as an intermediary in communications back and forth with the rest of the school staff and as a recorder of much that goes on even when he is present. She must be in charge of all the medical records, usually must type the outgoing letters and send out the form notifications. She is often the one who telephones parents about illness and accidents in school and to inquire about reasons for absence. In these relationships she must be possessed of methodicalness and tact.

In her handling of the emergency medical and surgical problems that crop up she must have independent judgment far beyond what the usual nurse is required to exercise. She is expected to act as though she had had a doctor's training, to diagnose at least the significance of every indisposition that appears, and to be able to treat it in a preliminary way. Both of these operations are remote from the main stream of nursing education. She must lean over backward in getting outside help in cases that are remotely potentially serious. But in thus leaning over backward she will run the risk of irritating parents who have been summoned unnecessarily as it proves subsequently. In the more minor complaints she will run the risk of irritating some members of the physical education department by excusing from gym children whom the latter department think are simply hypochondriacs. She will run the risk of irritating a teacher by keeping a pupil resting in the hospital room during a class. She will need judgment far above that required of the average nurse, tact above that needed by the average school staff member.

The school nurse must be a superior nurse to start with, must be able and anxious to keep learning the things the world expects her to know.

She needs the confidence of the physician, and he hers, to make their cooperative functions work. He should teach her more medicine and surgery as they go along and attempt to outline clear policies to guide her.*

* * * * *

Bovine Tuberculosis,—Bovine Tuberculosis has been practically eradicated throughout the United States, according to a recent announcement by United States Department of Agriculture.

The last two counties in the last state, Kings and Merced, California, have completed their testing and retesting for infected cattle, and now every county in every state has fewer than one-half of one per cent of its cattle infected.

This is the culmination of the vision of many prominent veterinarians who in 1917 believed the task to be feasible in spite of doubts and opposition raised to the task of tuberculin testing of millions of cattle.

The huge enterprise, in the course of 23 years, involved more than 232,000,000 tuberculin tests and retests. About 4,000,000 tuberculosis cattle were detected and removed for slaughter.

Notwithstanding the achievement now announced, veterinary officials emphasize that there is still need for continuing the retesting of herds, particularly those from which tuberculous animals have been removed in recent years. Such retesting is necessary to safeguard the health of herds against possible infection. Editorial; Bulletin of the National Tuberculosis Association, January, 1941, p. 2.

* * * * *

The "Continental" Breakfast,—Is not suitable for a growing child. In far too many homes, a breakfast of a roll and a cup of coffee is the fare for children as well as adults. Woefully deficient in vitamins and minerals, such a meal furnishes little more than a small amount of calories. A dish of Pablum and milk, however, is just as easily prepared as a "continental" breakfast, but furnishes a variety of minerals (calcium, phosphorous, iron, and copper) and vitamins (B_1 and G) not found so abundantly in any other cereal or breadstuff. The addition of a glass of orange juice and one Mead's Capsule of Oleum Percomorphum can easily build up this simple breakfast into a nourishing meal for the children of the family as well as the adult members. It is within the physician's province to inquire into and advise upon such nutritional problems.

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* See Journal of School Health: Vol. IX; 1. 20, 2. 39, 2. 44, 10. 295. Vol. X; 3. 91, 3. 93, 3.94, 4. 111, 6. 189, 6. 194, 7. 224, 9. 267.

TEACHER PARTICIPATION IN A RURAL SCHOOL HEALTH PROGRAM

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The program to be described was instituted in a Health District of central Michigan, comprised of the counties of Arenac, Clare and Gladwin. The area is entirely rural, there being no communities of twenty-five hundred or more. The total population is 27,707 with a school population of approximately 8,000, both populations being about equally divided between the three counties. There is one public health nurse for each county.

The program was preceded by a series of classes in health education conducted by the Director of Health Education of the Children's Fund of Michigan. These classes had been held at different times in all three counties of the district and were available to all of the teachers. Those who took the course received two hours of extension college credit. In the classes, the teachers were taught the elements of teacher participation. The majority of the teachers in the district had finished the classes before the institution of the described program.

There had long been dissatisfaction with the old, accepted school health routine. It was too time-consuming for the meager results obtained. The new program, as soon as it was planned, was presented to the county school commissioners and to the superintendents of the various town schools, and received their hearty approval. The teacher institutes, held for the rural teachers just before the opening of schools in the fall, were attended and the proposed program was explained.

The program requires active participation and cooperation on the part of the teachers. In their health teaching they must lead and guide the pupils to determine their individual health problems. The teachers do the weighing, measuring, and testing of vision and hearing. In addition they do a screening inspection, the purpose not being to diagnose, but to select those pupils who in their estimation have deviated from what they consider normal and need to be referred to the physician for examination. In their daily contact with the children the teachers are in a position to observe deviations from the normal; for example, they do not diagnose enlarged adenoids, but they certainly can pick out the mouth breathers in their rooms. The teachers go over their findings with the

pupils and bring them individually to a realization of their health problems, including the need for certain established protective measures such as smallpox vaccination or diphtheria immunization. This program requires closer cooperation between teacher, nurse, and parent.

As carried on in the Michigan Health District being described, the health director visits one-half of the rural schools twice each year, the visits being one month apart. The purpose of the two visits is to permit giving the two doses of alum precipitated toxoid. Thus, each rural school is served directly every other year. However, pupils in schools not visited by the health director, but needing or desiring his services, may secure the same by going to a nearby school being visited by the director. During his visit to a school, the physician examines the beginners; otherwise, he gives service only to those pupils who have requested the same. At the time of his first visit the first dose of toxoid is given, and during the second visit the final dose is administered. Smallpox vaccinations and examinations are performed at the time of either visit. Beyond the grade of beginners, the physician examines the pupils only for the defects which have been called to his attention. In this way, services rendered by the physician are understood and appreciated by the pupils. They know why they are being vaccinated, or for what condition they are examined. This is certainly an improvement over the old method when the physician would line the children up and examine them routinely, and vaccinate or immunize them if they held request cards signed by the parents. Too often in the past, pupils upon being questioned as to whether they had been vaccinated or immunized, would shrug their shoulders and say that they did not know—that the doctor had stuck a needle in their arm for something.

As a result of the present program, pupils who are questioned can answer immediately as to the type of immunization received, and can tell for what defect the physician examined them. Because of discussions between the children and their teachers and parents in determining their health problems previous to requesting services of the doctor, more interest is aroused in the family circle and we find a greater percentage of parents present in the schools at the time of the physician's visit.

Preceding the physician's visit, the county nurse must go to the schools and arrange for his clinic. Previously, the teacher, through her health teaching, guiding, testing, and inspecting, has

helped the pupils to arrive at a determination and appreciation of their health problems. If any questions have arisen, the nurse attempts to answer them. The pupils make their own written appointments with the nurse to see the physician at the time of his visit for the service they desire to receive. Thus, this is preparing the children for later, adult life when, under their own responsibility, they will have to determine their health problems, making appointments with their physicians and carrying out medical instructions. The list of pupil appointments is given to the health director by the nurse previous to his visit to a school. In this way he knows the amount and nature of work he will have for the day and can plan accordingly.

The county nurse holds weekly clinics in the town schools to which pupils are referred by the teachers. In addition, the pupils make appointments with her to see the physician who visits the town schools once a month. Otherwise, the program is the same as in the one-room rural schools.

The program as carried on has been quite successful from several angles. It has developed closer cooperation between the school, the health department, and the home. It has developed a better understanding of the health services on the part of the students. Too often in the past have we afforded school children health experiences but failed to interpret the same for them. Thus, this procedure makes the school health program more educational. The teachers themselves, through active participation, are more appreciative of the program and more aware of the health status of their individual pupils. Finally, the program as a whole, is less time consuming and more productive than the old method.

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Correction,—The sentence on page 36 of the February issue of THE JOURNAL OF SCHOOL HEALTH at the bottom of the second paragraph in the article on "The School Physician in the Public Health Program" reading "The recent study in New York City on the 'Choice and Change of Doctors,' shows all too clearly the need for public facilities." should read "The recent study in New York City on the 'Choice and Change of Doctors,' shows all too clearly the need for public education in intelligent use of medical facilities."

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THE FACULTY HEALTH COMMITTEE

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As an instrument for health guidance in the secondary school, the Faculty Health Committee offers unusual opportunities for health leadership. Though one of the simplest groups to organize, it offers great potential health direction to the school. Ironically enough though, probably because of its obvious simplicity of organization, this group is conspicuously absent from the health program of many schools. Where this is true the health program is incomplete, for the reason that it has failed to take advantage of every factor capable of contributing to the achievement of its objectives.

Health activities which may originate from this source are almost unlimited in their scope of action and possibilities for success, and it is probable that there is no better, nor more logical, starting point for a school health program than from this base of faculty interest.

The personnel of such a committee should be drawn from those departments which suggest an interest and training in those areas which are closely connected with matters concerning health and hygiene.

The school nurse or health counselor, representatives of both boys and girls health teaching and physical education departments, and teachers of general science, social science, biology, and home arts may be expected to meet these requirements best. The school physician functioning in the capacity of adviser to this group can contribute greatly to the work of the group, and the interest and cooperation of the school principal or administrator is of basic importance.

Assuming the committee to be chosen upon the aforementioned basis, its activity should be of far reaching consequence. Under the leadership of the health counselor, the committee will make itself responsible for observing the ever-changing health needs of the school and its community. Meeting at regular intervals, as for example each term, bi-monthly, or monthly, it will discuss these needs and problems, and will ultimately present recommendations to the school principal concerning them. After discussion of the recommendations with the health counselor, the principal may pass

on to the faculty, to the parents, to the office of the superintendent, to the custodial staff, to the student body, information which may pertain to the solution of the particular problems.

There is little need to fear want of problems with which to occupy the committee. A school of large pupil enrollment will from its very size present ever-changing problems concerning health and safety. Problems of safety alone, make imperative a constant supervision of activities in the gymnasia, shower and dressing rooms, halls, stairways, home rooms, and auditorium; in the environs of the school; in the passage to and from school with the involved problems of bicycling and of pedestrian and automobile traffic; in the transfer of teaching materials within the school. Safety is a never ending school problem. Problems of sanitation concerned with rest rooms, shower and dressing rooms, swimming pool, lunch rooms, drinking fountains, corridors, et cetera are ever present. Problems concerning the hygiene of lighting, and of heating and ventilating the many types of rooms are likewise present. There are problems of posture, and the proper seating and seat adjustment in all rooms, as well as medical and clinical problems arising in the office of the school nurse.

One could go on enumerating the many problems which are typical of the average school and the information could hardly be called new. The small school will have the same problems in proportion to building size and pupil enrollment.

A second function of the committee will be in connection with the activities directed by the health counselor. As an assisting group in the organization and support of such activities as health week and health day celebrations, auditorium programs, trips, publicity, exhibits, the work of the student health council, and on any occasions of particular health significance, the cooperation of this group will do much to obtain wide-spread interest and support from the student body.

In brief the very presence of a faculty health committee suggests an awareness of the importance of the first objective of education. The strong support of such a group by the school administrator may frequently mean the difference between a theoretical health program and one which offers an opportunity for learning about health through healthful living.

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EDITORIALS

Preliminary figures now available as to the percentage of men of draft age so physically defective that they are not accepted in the military forces for full unlimited service indicates that the condition is about what we found it to be during 1917 and '18. All the millions poured into recreation, intercollegiate athletics, and even into extended programs in health and physical education in our colleges and public schools seemingly have not, during the generation that has elapsed since then, improved the physical condition or stamina of our young men.

The sorry showing of 1917 and '18, while it resulted in a cry for physical fitness, bore fruit in a way that has not been particularly advantageous physically. Anything savoring of regimentation was pushed into the background, and *"recreation"* was made the cry. Our leaders of athletics preached about the joyful and character building qualities of athletics. This in itself, when we come to interscholastic and intercollegiate competition, is a false assumption. While more people participated in athletics, we have suffered a severe attack of "spectatoritis", where the tendency is to sit on the bleachers witnessing contests rather than participating in them. We became "a nation of sports addicts and not sports participants". On page 89 of this issue of THE JOURNAL, the reader will find quoted material abstracted from an article by Henry W. Clark, formerly Assistant Director of Athletics at Harvard, now Director of Athletics and Physical Education at Lafayette College. These comments of Mr. Clark, especially in view of the fact that he has spent practically all of his active professional life in the field of college physical education, and particularly in the field of intercollegiate competition, should carry extra weight with those who are interested in facts rather than merely in recreational propaganda. It seems one of the self-evident truths that a man in peace time "might firmly claim that he had a right to be stoop-shouldered, anaemic, or short-breathed if he wanted to be, but the majority of us should realize that this inalienable right is not quite so precious if the very existence of this country is threatened by the prevalence of such weaknesses". The national right that takes one million men from their civilian occupation in peace time, and puts them into the army for military and physical training, would seem to include also the right to insist that our young men, while still in civilian life and occupations, should participate in a program

vigorous enough to build physical stamina and neuro-muscular power. This program, by means of coercion if necessary, should immediately be made a part of the defense program. Here is a place where schools and colleges, either public or private, can make a real contribution to our safety. C. H. K.

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We wish to bring to our readers' attention again the leading article in the February, 1941, JOURNAL OF SCHOOL HEALTH wherein George M. Wheatley, M.D., of New York City discusses "The School Physician in the Public Health Program". This is a much worth while article bringing to light a new attitude and emphasizing a new type of school physicians' service hitherto generally neglected; namely, that the school physician shall be the medical adviser to the child, to the parent, and to the school, rather than a mere hack piling up statistical data concerning the prevalence of physical defects.

While we have had suggestions from Spock and others that the role of adviser is the true one for the school physician, rarely have these suggestions been put into operation. The study and program development in the schools in New York City, on which Dr. Wheatley's article is based, are being carried on under the City Department of Health. It is particularly commendable because, in spite of all the furor in favor of placing the activities of the school health services under control of a layman because he is an "educator", it has remained for a City Health Department under the guidance of physicians to develop what is truly an educational program and one of the greatest forward steps in activities for health in the schools that has been put into operation in many years. Even though we realize that similar efforts have been made in other places, the Commissioner of Health of the City of New York, John L. Rice, M.D., and those of his fellow workers who have been responsible for developing and administering this study and program merit our congratulations and our thanks. If this change in attitude can be brought about generally throughout public school systems so that physicians, school teachers, administrators, and parents may become convinced that the function of the school health service is not so much to find physical defects as it is to solve the health problems of the individual child concerned, we shall have made a real advance. C. H. K.

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ABSTRACTS

Behavior Problems,—"Are there 'psychological black-outs' in the teacher's personality which stand in the way of a constructive approach to children's problems?"

This is the challenging question discussed in *Progressive Education* that has its application to the physician and nurse in the school.

As a part of the Progressive Education Association's Study of Adolescence, teachers were interviewed and the question was asked, "What do you consider, on the basis of your experience, an outstanding problem of Adolescence?" The personal reactions of the teachers revealed the adult attitudes toward children that very largely determine the adult's ability to help the child.

As the physician and nurse in the school appreciate the complexity of health problems and the importance of understanding the whole child in relation to his total environment, we see the need for "a more detached, a more adequate evaluation of child behavior". As we try to understand the child and the parent and attempt to guide them to a solution of their heatlh problems, "inevitably we react, and to an extent we seldom suspect, in terms of our own human need and our own personality problems."

This interpretation of teacher reactions and the effect upon children brings to the school health worker a new realization that our service must also be dependent upon our own personal experiences that are part and parcel of our own personality. As a means of helping teachers to recognize their own reactions, and to achieve objectivity in studying child problems, the author suggests concentrating on the study of a few individual children in preference to " 'mental hygiene' courses, conducted in academic aloofness." He says: "The study of individual children helps build up this ability to conceptualize observations—but it requires a long time before it can be done with soundness and balance." He commends the work of the Institute of Personality Development of the Progressive Education Association as a pooling of "resources for a better understanding of what we do, could do, and should do with children."

Physicians and nurses are familiar with the clinic approach to medical problems that focus upon an intensive study of a few individual cases. As educators face "the task of helping the whole child grow up", they will appreciate the contribution of the medical and social history and the medical interpretation of individual children. Case studies participated in by educational and health

worker staff offer great possibilities for improving the school health program. "About Adult Attitudes Toward Children" by Peter Blos, pp. 90-94. "Progressive Education," Vol. XVIII, No. 2, Feb. 1941. From "Adolescent Personality: A Study of Individual Behavior" by Peter Blos. New York: D. Appleton-Century Company, 1941. Abstracted by H. H. Mitchell, M.D.

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Analyzing the School Health Program,—The modern school health program comprises services and methods of procedure in which not only the teachers and pupils, school physicians, and nurses participate, but also parents, social agencies, practicing physicians, and many others. Such a program includes the following aspects:

Provision of a healthful environment,—Everything about the school should tend to provide a healthful environment. The school building and the school room should be clean, safe, and attractive. There should be provision for ample play areas. Proper and adequate heating, lighting, and ventilation should be provided. The seating should be of a type and arrangement to prevent fatigue and encourage good posture. Personal hygiene should be encouraged by adequate toilet and washing facilities, and a continuous supply of soap and towels. The school janitor should have an intelligent concept of personal hygiene, and should be taught to cooperate fully in these matters.

Periodic health examination,—Parents and teachers should be brought to realize that however thorough a school examination may be made, it cannot fully take the place of an examination by the child's physician. There is more to an examination than the manipulations which the physician carries out. The child's doctor must know his patient's background, the family history, and the history of the child's past. He must keep in mind any tendency to illness in the child's family. He cannot estimate the child's nutritional status without knowing the sort of people from whom the child derives.

A careful physical examinaion involves much more than putting a stethoscope on the chest. There may be needed certain additional tests. The blood may have to be examined. The urine may need to be analyzed. Time must be given to a consideration of the child's habits and behavior patterns. Just an enumeration of these things suggests that the first examination, at least, must take a considerable time and requires the presence of the parents. Were the school physician to give the necessary time, he would still be hampered by the lack of laboratory facilities.

For the purpose of detecting conditions that might interfere with a child's schooling, it is not necessary to have a thorough examination, and children who cannot have their own pediatrician can and should be examined by the school physician. His examination need not be made annually, and it should be for the express purpose of screening out children who require further diagnosis or who have obvious defects requiring correction. Instead of making routine examinations of all children, he should be available for those with the most urgent needs or for those who will not otherwise receive attention.

Medical care, and care of sudden illness and accidents,—Under our American system, medical diagnosis and treatment are responsibilities of the home and the family physician, or, in the case of indigent families, of the home and welfare agencies. Treatment of disease lies outside the responsibility of the public schools. The school authorities have the responsibility of acquainting parents with the existence of defects which handicap the child in receiving an education. They should also endeavor to influence the parents to take action in behalf of the child needing medical care.

There will be times, however, when a school child may become suddenly ill at school. Upon occasion, immediate hospital care may have to be secured for a pupil whose parents cannot be located at once. Schools should have a plan for such eventualities. Accidents, more or less serious, may occur on the school grounds. Some one must be available to apply first aid. There should be a plan for notifying the parents, getting the pupil home, and guiding parents, where necessary, to means of further treatment. At the higher age levels there may be injuries in the course of athletic contests. Physical education teachers usually are well trained in first-aid procedures and they, as well as other teachers, should be fully informed regarding school policies for the care of injured or ill pupils.

Prevention and control of communicable diseases,—The health department of a community carries the responsibility for communicable disease work. Certain diseases have to be reported, and this requirement devolves not only upon physicians, but also upon parents and persons in charge of institutions, and upon anyone who may have knowledge of the existence of an individual "affected with any disease presumably communicable". The schools are required to report to the health department all conditions that might be suspected of being reportable. In turn, the health department reports to school principals all cases of communicable disease involving school children.

As a means of detecting pupils who should not be permitted to stay in school, the morning inspection by classroom teachers, sometimes with the assistance of the school nurse, has become a recognized procedure for elementary schools. Teachers have to be made to realize, however, that in addition to the routine inspection, they should be on the lookout for abnormal symptoms or behavior on the part of their pupils at any time.

Every instance of a communicable condition ought to serve as a basis for health education. Probably no greater influence could be exerted on the control of communicable disease than to put into practice the teaching that every child with symptoms of illness be put to bed and separated from other children at the first signs of illness. Nevertheless, the school personnel should realize what is obvious to every epidemiologist, that communicable diseases cannot be controlled sufficiently even with all of our machinery for the prevention of exposure. In spite of all efforts, cases of these diseases are not reported, or are not recognized, or are not isolated early enough to prevent further spread.

Promotion of mental health,—Good mental health is increasingly important because of the tensions of modern life. While the larger share of the responsibility for establishing and maintaining good mental health resides in the home, the school must also assume a share of that responsibility. The preventive approach includes consideration of the school program, methods of teaching, methods of discliplining, types of examination, methods of promotion, type of teacher, and the method of teacher selection. The teacher's influence on the child can be either wholesome or harmful. An irritable, fearful, or insecure teacher can readily transmit her attitude to her pupils. Methods of teaching that emphasize unduly speed tests or grades, may affect adversely the learning reaction of the child.

Health Education,—It is generally assumed that the school has responsibility to instruct pupils about the functioning of the human body, about the causes and prevention of disease, and about community health programs. The development of habits, attitudes, and knowledge favorable to good physical and mental health constitutes a distinct challenge to present-day education. It is recognized that many of the pupils' experiences while at school should contribute to their health education.

Health of teachers and other school personnel,—The school health program must, to prove of lasting value, extend to teachers and other school personnel as well as to the pupils.

In the event of a national emergency, with the resulting shortage of physicians and nurses for civil services, the steps that will be necessary to maintain school health programs at maximum efficiency are the very steps already outlined to improve efficiency. The school child of today is the citizen of tomorrow; his health, physical and mental, and his education for health may bear significantly on his adult attitudes. A. Clement Silverman, M.D., *Public Health Nursing*, January, 1941. Abstracted by Earl E. Kleinschmidt, M.D.

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Muscles and American Defense,—All of this (emphasis on athletics) would appear at first sight to be a boon to the physical betterment of the nation, but aside from the fortunate college students who had programs of athletics not only available, but even forced on them, we became a nation of sports addicts and not sports participants. We became mere spectators, fans, or followers, and the only real physical betterment was vicarious at best. Even the college athletes were developing not rugged physiques primarily, but interest and skill. Such qualities are valuable in a world at peace, operating under laws of free competition, and this philosophy of physical education proved satisfactory so long as the world followed peaceful ways. Munich, Poland, Norway, the invasion of the Low Countries and France, brought us suddenly face to face with the stark reality that possibly the future might not be like the present, so that men in all walks of life began to question the very foundation of education.

While we are often told that we are athletically-minded as a nation, no one can say that we are a nation of athletes. As a nation it would be better to say that we are flabby and soft. France was probably in worse shape than ourselves, but we are not far away from their condition when Germany ran roughshod over them. If this is true of the nation as a whole, the picture in some sections of the South is even worse. There you have added to physical neglect as far as exercise is concerned, actual dietary deficiencies because of their economic inability to get proper foods.

The physical educators are feeling the same unrest and uncertainty and are striving to meet the problem intelligently. It becomes increasingly apparent that our job is to train youth to exist in a world at war or, if not actually at war, at least in a world which operates either under controlled governmental supervision and regulation or in competition with nationalized industry. Such

a world puts a premium on success, and pushes ideals, temporarily at least, into the background.

Any plan to improve national physical fitness must take into account the regular Army as well as the civilian populace. The regular Army have taken the definite stand that they are going to run their own show. They have organized a morale division which has sole responsibility for physical training as well as recreation. The religious and semi-religious agencies that carried on this work in the last war, such as the Y. M. C. A., Knights of Columbus, and similar organizations, have been politely told that whatever work they may contemplate must be done outside the Army encampments. Furthermore, the physical training officers of the Army have built up their program without consulting the professional physical educators. It is true that the basic field manual devoted to physical training has been revised, but this revision concerns itself with form and not content. The same setting-up exercises, formations, marching, mass athletics, group games, and corrective exercises in vogue a number of years will be used in the future.

We must school our youth particularly, but our nation as a whole, first, to realize that we are not tough enough physically; secondly, that it is smart to be in training; and, finally, that physical fitness is worth real sacrifice. Golf, tennis, squash, badminton, and ping pong may be beneficial as recreation and may be a mild tonic for the body, but they fall far short of really toughening mankind. Exercises that toughen must necessarily be strenuous, and strenuous exercises are frequently unattractive as well as tiring. Furthermore, such exercises are most efficient when closely supervised, which again curtails recreation. Calisthenics, especially those designed as corrective exercises, are an integral part of such a program but not the sole feature. Contact sports such as boxing and wrestling are equally important. The exact nature of a toughening process must be worked out by qualified experts who have familiarized themselves with the experience of Germany, Russia, Italy, and England.

Regardless of the program that is launched, there is little likelihood of its success unless the nation as a whole, and particularly the youth of the country, are educated to the state of mind that physical fitness is not only desirable but necessary for every individual if our American way of living is to persist. Henry W. Clark, '23, Harvard Alumni Bulletin, February 8, 1941, p. 517. Abstracted by Charles H. Keene.

Mischievous Medical Fallacies,—In an address to Detroit doctors and their wives a few weeks ago, Dr. Haven Emerson neatly punctured some of the medical fallacies that have been urged upon the nation, especially the fallacy "that the national health is in a bad way, that the medical care of one-third of the people is neglected or entirely lacking, that a revolution in the conduct of medical affairs is required, with financial and administrative dependence for health and medical care of every state upon Federal authority." He said, in part:

During the past decade the following significant changes have occurred:

Infant mortality has fallen 50 per cent in New York City and 29 per cent in the United States.

Maternal mortality has fallen 50 per cent or more in most parts of the United States.

The tuberculosis death rate has fallen 43 per cent in New York City and 32 per cent in the United States.

The diphtheria death rate has fallen 97 per cent in New York City and 59 per cent in the United States.

The typhoid fever death rate has fallen 70 per cent in New York City and 59 per cent in the United States.

The death rate from diarrhea and enteritis under two years of age has fallen 62 per cent in New York City and 67 per cent in the United States.

The pneumonia death rate has fallen 66 per cent in New York City and 31 per cent in the United States.

The accident death rate has fallen 39 per cent in New York City and 28 per cent in the United States.

The death rate from three causes, which in the main are not preventable but are typically related to the steadily rising average age of the population and particularly of the portion over 45 years of age, have increased, for diabetes 36 per cent in New York City and 25 per cent in the United States; for heart diseases 10 per cent in New York City and 22 per cent in the United States; for cancer 18 per cent in New York City and 19 per cent in the United States.

Death rates from many other diseases have fallen, not as a result of specific measures of prevention so much as from a general high level of sanitation and personal hygiene and improved skills in medical and nursing management of sickness.

No comparable experience can be quoted for any other people

or nation in human history. There is nothing in this record to give any basis for the fantastic and exaggerated statements of gloom and despair which were foisted upon the public in July 1938, by the spokesman of the federal government, to prepare the voters and the legislators to welcome a vast program of expenditure in the name of health.

The story of improving national health is too consistent and continuous to justify any serious credence in the much exploited claim that more than a third of the nation lacks adequate medical care and that an even larger fraction is suffering from economic disadvantage on account of illness.

In spite of the inadequate incomes of the families of many wage earners and of the large amount of unemployment, the health of the people of the United States has not been neglected or medical care been denied them. Nassau Medical News. January, 1941, p. 5. New York State Journal of Medicine.

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Hookworm in Southern States,—Hookworm surveys were made in eight Southern states during the periods 1910-1914 and 1930-1938. In the early period 577,590 specimens of feces were examined, and in the later period 424,511. The numbers found positive in the early and later periods were 240,895 and 81,913, respectively. After adjustment for the distribution of the population the percentage found positive in six of the eight states was 36.6 in the earlier period and 11.2 in the later period, resulting in a reduction of 68.3 per cent. In the later study the states in the order of prevalence from highest to lowest were Mississippi, South Carolina, Alabama, North Carolina, Kentucky, and Tennessee. While there is a widespread distribution of hookworm, the areas of highest incidence are confined to the coastal plain and sandy soil areas of each state. The age distribution shows that the greatest prevalence was in the group 5 to 19 years of age. The peak of incidence, 24.5 per cent, was reached in the age period 15 to 19. In pre-school children and adults the incidence was about half as great as that found in the school age group. A comparison was made of hookworm in 17,458 Negroes and 59,028 white persons in the same counties during 1930-1938. The incidence in Negroes was about one-fourth that in white individuals and the average intensity of infestation was about one-half that found in white persons. Results of Recent Studies of Hookworm in Eight Southern States. A. E. Keller, W. S. Leathers and P. M. Densen, Nashville, Tenn. American Journal of Tropical Medicine, Baltimore, July 1940, p. 493. The Journal of the American Medical Association, Oct. 5, 1940, p. 1226.

Decrease in Tuberculin Reactors,—The incidence of tuberculin reactors, using .001 mg of Koch's Old Tuberculin, has fallen sharply in both rural and town schools in the Riverside Sanatorium district, Granite Falls, Minn., during surveys begun in 1930 and continued periodically during the last ten years. A total of 10,907 school children have been tested during the ten years. The tests have been repeated in the same communities, among children from the same homes and under the same conditions each time.

Nine per cent, or 987 children, of the 19,907 tested during the ten years reacted to the tuberculin test. The total decrease in percentage of reactors in all schools is shown by the following figures —14.1 per cent reacted during the first test, 6.75 per cent during the last test.

In five years the percentage of reactors in the rural schools dropped from 8.2 to 1.9. In the largest city school in the district the percentage dropped in six years from 13.6 to 7.4.

In the 1939-40 testing program, readings were made at 48-, 72- and 96-hour intervals. It was found that the 72- and 96-hour readings were identical in every instance and that there was a 20.43 per cent increase in reactors from the initial 48-hour reading. Persistent Efforts Rewarded; Results in Striking Decrease in Tuberculin Reactors; by Lewis S. Jordan, M.D.; Bulletin of the National Tuberculosis Association; February, 1941; p. 27.

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REVIEW

Plague On Us. *By Geddes Smith.* The Commonwealth Fund, New York, N. Y., 1941. P. 365. Price $3.00.

Here is a great story of adventure—adventure against the pestilences of man, against death—written by a layman for laymen.

Coming "out of the nowhere into the here", the scourge of these plagues was variously attributed to the vicious acts of demons, to the punishment of sins committed, to retribution for heresy, to faulty diet, to bad air, to any number of causes, real or imaginary. And the pestilences rolled over us: Bubonic Plague (The Black Death) repeatedly threw millions into terror and hundreds of thousands into common graves; the English Sweat—seemingly influenza; Yellow Fever, sweeping even into the northern United States; Asiatic Cholera killing millions in the far East; and the ever present threat of epidemic influenza which in 1918 and 1919 killed millions, West and East.

The advancement in the acceptance of scientific bases as causes of disease has been won only after centuries of battle against ignorance, credulity, myths, superstitions, and the greed of those getting a living as "medicine men" of various kinds, whether exorcisers of demons, or "faith" healers. We still have a large number of these with us, who steadily oppose the use of modern science to combat the spread of disease. Superstitions became attached to diseases, and still persist—"St. Vitus" dance, the "Kings" Evil, the piercing of ear lobes to prevent eye infections, "Gesundheit" when we sneeze. Then came the microscope and, based on its use, modern laboratory research. No detective story has the fascination and human interest of the stories of seekers after truth who have traced murderous microorganism to their lair.

This text also propounds questions the answers to which we may know or may not yet have proven. Why does measles attack children more frequently than adults; how and why have some racial groups seemingly acquired partial immunity to certain diseases while other groups have not; is the idea that "a green Christmas means a full kirkyard" a mere superstition or has it a foundation of fact.

One chapter is devoted to what might be called "case records", wherein sample epidemic outbreaks of communicable disease are studied, and the cause traced to its source. Malaria, typhoid fever from carriers, from a wading pool, from oysters; streptococcic sore throat from a milker; dysentery from badly planned plumbing; all appear in this "Sherlock Holmes" series.

And, lastly, what are we doing about it? Are these epidemics to continue their destruction of health and lives? Are we going to be able wholly to prevent recurrent epidemics? What of poliomyelitis? How common is it? Is it truly seasonal? Certain communicable diseases are becoming relatively rare,—how and when, if at all, are these diseases to disappear? Discussing these, the author says the answers are "Unfinished Business". Charles H. Keene, M.D.

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MEETINGS

American Association for Health, Physical Education, and Recreation, Atlantic City, New Jersey, April 30 to May 3, 1941.

American School Health Association and American Public Health Association at Atlantic City, New Jersey, October 13-18, 1941.